بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ



Department of Accounting
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Audit Fees and Agency Costs: An Empirical Examination of Companies Listed on the Amman Stock Exchange

أتعاب التدقيق وتكاليف الوكالة: دراسة ميدانية على الشركات المدرجة في بورصة عمان

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Thesis Submitted in Partial Fulfillment of the Requirements for the " Degree of Master in Accounting, Yarmouk University"

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DEDICATIONS

I dedicate this scientific work to my father and mother for their unlimited encouragement and support, I love you my parents and thanks a lot for your persistent help and support to go on. Without both of you, I wouldn't have made it.

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Abbreviations	Description
LAF	Log of Audit Fees
FCF	Free Cash Flow
SIZE	Corporate Size
DA	Debt to Asset Ratio
ROI	Return on Investment
SUB	Corporate Subsidiaries
NOB	Corporate Branches
AUD	Type of Auditing Firm
NPV	Net Present Value
ASE	Amman Stock Exchange

ABSTRACT

Audit Fees and Agency Costs: An Empirical Examination of Companies Listed on the Amman Stock Exchange

Prepared by: Sabeeka Saleh Melhem
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This study aims at investigating the impact of agency costs of FCF on audit fees, and examines the impact of growth level on the FCF and audit fees association. To achieve these goals the data is collected from the financial statements of sample which consists of manufacturing and services companies that listed on the Amman stock Exchange (ASE) for the year 2011. The multiple regression model is conducted to analyze the data. The results show that there is no significant relationship between audit fees and agency costs of FCF. Moreover, there is a significant positive relationship between audit fees and both of the corporate size and the type of auditing firm. In addition to, no significant relationship between audit fees and the following variables: the total debt to asset ratio, dividends yields, quick ratio, return on investment, the type of sector, the corporate subsidiaries, and the corporate branches. Finally the results indicate that there is no effect for the growth level on the audit fees and FCF relationship because there is no significant relationship between audit fees and FCF for both high and low a growth firm.

Key words: Audit Fees, FCF, Agency Cost, Growth Opportunities and ASE.

Chapter One
Introduction

1.1 Preface

The agency theory has played a significant role in explaining the need for external auditors as a linkage between firms' management and their stakeholders (Suwaidan, 2010). Moreover, the monitoring role played by auditors can be used as a mechanism to reduce the conflict of interest and information asymmetry problems between agents and principals too, which finally leads to reduce the agency problems.

The agency problem was defined as a separation between agents (management) and principals (ownership) of the company, therefore, principals engage another person as their agent to perform some services on their behalf which involves delegating some decision-making authority to this agent (Jensen and Meckling, 1976).

The separation between agents and principals from one hand, and the delegation of decision making authority from the other hand, create the conflict of interest problem which assumes that each party (the principal and the agent) will act on his/her own interest due to the argument that the agents do not necessarily have the same incentive as the principals of the company. For instance, the agents will focus on the growth of the company

size rather than on the growth in the principals' returns. The agency problem also could arise from the information asymmetry too, in which the agents have more information than the principals (Jensen and Meckling, 1976).

In order to alleviate the conflict of interest and information asymmetry problems that lead to agency problem, both principals and agents incur contracting costs. On one hand, Agents incur bonding costs for external financial reporting and internal audits; on the other hand, the principal incurs monitoring costs from subjecting external auditor (Adams, 1994). These costs are reflected in audit fees payment for the efforts and time exerted for auditing (Hay and Davis, 2004) which represent an important part of monitoring costs, since auditors have a duty to ensure that the managers are behaving according to the owners' interest. Based on this, it can be expected that the auditors will use more time and effort to inspect managers' activities (Nikkinen and Sahlstrom, 2004).

Audit fees that are incurred by the principals' monitoring actions are one component of agency costs (Jensen and Meckling, 1976). The audit fees also reflect the monitoring costs that result from the agency problem.

Gul and Tsui (1998) indicated that the free cash flow (FCF) is a good proxy to measures the agency costs. Jensen (1986) identified that FCF as one of the sources that creates agency costs which resulted from probable increase of value harmful investments besides opportunistic and inefficient behavior from the agent's side.

This study attempts to provide evidence on the impact of agency costs of FCF on audit fees for Jordanian firms listed on the Amman Stock Exchange (ASE).

1.2 Problem of the Study

This study aims to investigate the impact of agency costs of FCF on audit fees for companies listed on the ASE for the year 2011. The study attempts to provide answers to the following questions:

- How agency costs resulting from the availability of FCF can explain the variations in companies' audit fees?
- Is there an effect of the firm's growth on the relationship between audit fees and the agency costs that can arise from FCF in Jordanian companies?

1.3 Importance of the Study

The importance of this study stems from the fact that almost all (to the best of the researcher's knowledge) of the studies that investigated the relationship between agency costs and audit fees were conducted on the context of developed countries. Thus, this study will address this issue in the context of a developing country, Jordan. Therefore, it is hoped that this study will increase our knowledge about the impact of agency costs as represented by FCF on audit fees.

The subject of this study has a great value to all the users of financial statements in making decisions and is expected to be very significant to those users. So it could raise the knowledge of shareholders about the agency costs of FCF, the problems that could arise from it, the techniques to mitigate it, And it could increases the auditor's awareness to detect the activities of mangers to act opportunistically and finally manipulate earnings. In addition to that, it could encourage the professional managers to act optimally to be trusted and high reputation managers. Furthermore, it could be useful for the researchers in determining and explaining the variables when conducting further researches.

1.4 Objectives of the Study

In light of the problem of the study and its importance, the main objectives of this study can be summarized as the follows:

1. To examine the impact of agency costs of FCF on audit fees for a sample of companies listed on the ASE for the year 2011.
2. To examine the effect of the firm's growth on the relationship between audit fees and the agency costs that can arise from FCF in Jordanian companies.

1.5 Hypotheses of the Study:

The following hypotheses, stated at their alternative form, will be tested by the study:

H_1: There is a significant positive relationship between audit fees and FCF for companies listed on the ASE.

H_2: Audit fees for high growth firms will be higher than for low growth firms at any level of FCF.

These hypotheses will be tested by using data drawn from firms listed on ASE for the year 2011; data will be analyzed by using different techniques, which will be discussed within the study methodology.

1.6 Structure of the Study

This study will be constructed as following:

First chapter is the introduction for the study, includes: brief discussion of the research problem, in addition to the study objectives, the importance of the study, and study hypotheses.

Chapter two presents the theoretical framework of the study, includes the issues, theories, and researches arguments about audit fees and agency costs.

Chapter three contains the literature review, divided to two sections; the first group includes studies which attempted to identify the determinants of audit fees. While the second group focuses on studies which attempted to employ agency theory to explain variations in firms' audit fees.

Chapter four; provides the methodology employed by the study to achieve its objectives. It includes data collection, population and sample, models, and the variables measurement used in the study.

Chapter five presents and discusses the results of hypotheses testing.

Finally, the chapter six summarizes the conclusion and recommendations of the study.

Chapter Two
Theoretical Framework

2.1 Introduction:

As discussed earlier, this study aims to investigate whether audit fees vary in relation to the agency costs that can arise in companies with FCF, using data from ASE. The current chapter presents the theoretical background of audit fees and agency costs in addition to underlying arguments for agency theory.

The agency theory has played an important monitoring role in employing auditors as a mechanism to alleviate the conflict of interest and to reduce information asymmetry problems between agents and principals, which lead to agency costs (Suwaidan, 2010)

Adams (1994) observed that, in order to ensure the optimal level of interest alignment and information asymmetry, both principals and agents would incur contracting costs. On the one hand, principals incur monitoring costs from subjecting the financial statements to external audits. These costs are represented by audit fees payment for the efforts and time exerted for auditors (Hay and Davis, 2004). On the other hand, agents incur bonding costs for external financial reporting and internal audits (Adams, 1994).

Audit fees that are incurred by the principals' monitoring actions are one component of agency costs (Jensen and Meckling, 1976). The audit fees also reflect the monitoring costs that result from the agency problem. Furthermore, these audit fees are subject to the impact of agency cost that resulting from high FCF in which the FCF is used as a good proxy for agency costs (Gul and Tsui, 1998). Thus, the higher the FCF the more the effort and time to audit a company which, in effect, leads to more audit fees (Wang and Yang 2011; Gotti *et al*, 2012).

This study attempts to provide evidence on the impact of agency costs of FCF on audit fees that may arise in Jordanian companies listed on ASE. Jensen (1986) indicated that the combination of high FCF and low growth prospects encourages managers to engage in non-value-maximizing activities. For instance, Lang *et al* (1991) as well as Harford (1999) found that the presence of FCF leads managers to act sub-optimally. On the other hand, Rubin (1990) found that managers in high FCF companies prefer to invest in negative net present value (NPV) projects rather than to pay dividends for shareholders that resulted in a conflict of interests between managers and shareholders which could lead to high agency costs rising.

2.2 Audit Fees

2.2.1 Audit Fees Definition

A number of definitions of audit fees have been introduced by researchers. For instance, Simunic (1980) defined audit fees as payments made in a market transaction that cover the total costs of auditing procedures. Thus, external audit fees are illustrated as simply a market clearing quantity (*q*) and price (*p*) pair, where quantity represents labor hours and price represents an average hourly billing rate. Assuming that any fixed portion of fees is minimal relative to the overall fee, so audit fees can be described by the simple equation, Audit Fees = p*q (the multiple of price and quantity).

International Standards on Auditing (ISA) defined audit fees as the amount that remunerates the financial auditor's activity and the certification of financial statements, in which these fees should be calculated in an objective way. Moreover, it should not have influence on the auditor's independence (Chersan *et al*, 2012).

According to Dickins and Higgs (2005)**,** audit fees can be viewed as the aggregate fees billed for professional services rendered by an external auditor for the audit and review of the issuer's financial statements or

services that are normally provided by external auditors in connection with statutory and regulatory fillings or engagements.

Suwaidan (2010, p 61) considered the audit fees as monetary payments by the company to reimburse the auditor for auditing works and for the issuing of his professional opinion. It is clear that this definition excludes the fees that are paid to external auditors for performing consulting services or preparing financial statements or other services (non-audit services).

Choi *et al*, (2010) viewed audit fees as the actual payment to the auditors for their financial statement audits which reflect auditors' effort costs, litigation risk, and normal profits. Finally, Chersan *et al*, (2012, p 2) clarified the audit fees simply as sums of payable paid to the auditor, for the audit services offered to the auditee.

Based on the above definitions, audit fees include payments to reimburse the auditor for expenses incurred in conducting the auditing of financial statements which reflects the effort and time spent to review the financial statements and then issue his/her professional opinion.

2.2.2 Audit Fees Disclosure

The audit fees disclosure began in the United State of America (USA) on February 5, 2001 by the Securities and Exchange Commission (SEC) (Lai, 2009 ; Stanley, 2011), which requires publicly traded companies to disclose the amount and nature of fees that paid to their external auditor (Dickins and Higgs, 2005). While in Jordan the Board of Commissioners of the Financial Securities have issued the instructions of audit fees disclosures which compelled the Jordanian companies listed on ASE to disclose its external audit fees in their annual reports since 2001 (Naser and Nuseibeh, 2008; Suwaidan, 2010).

2.2.3 Audit Fees Determinants

Simunic (1980) was one of the first to develop a theory regarding the determinants of the audit fees. He argued that the level of the audit fees depends first on the auditor's effort, then the connection between the cost of the audit and the efforts for its accomplishment. Thereafter, several variables have been employed to explain the variations in audit fees. The choice of variables may vary from one country to another depending mainly on data availability. In the following sections, the main variables and the rationale behind their use in prior studies are discussed (Naser and Nuseibeh, 2008).

2.2.3.1 Corporate Size:

Corporate size is the most important and significant factor that influence audit fees in previous studies in both developed countries (e.g., Simunic, 1980; Taylor and Baker, 1981; Firth, 1985; Simon *et al*, 1986; Chan *et al*, 1993; Anderson and Zeghal, 1994; Johnson *et al*, 1995; Langendijk, 1997) and in developing countries (e.g., Al-hmoud and Ibrahim, 1996; Kutob and Al-khater, 2004; Naser and Nuseibeh, 2008; Suwaidan, 2010).

The size of the audited company was found by several studies to be positively and significantly associated with audit fees (Simunic,1980; Taylor and Baker, 1981; Gerrard *et al*, 1994; McMeeking *et al*, 2006) owing to the auditors who deal with large-sized companies tend to spend more time, efforts, and costs on transactional audits of clients' businesses which certainly will increase the audit fees (Nathalie and Alain, 2007).

2.2.3.2 Corporate Complexity

Chan *et al.*, (1993) explained that the level of audit complexity had influence on the audit fees in a positive manner. The rationale for this is that, as the audit becomes more complex, more time, effort, and extra work besides expertise must be spent by the auditor in planning, coordinating, and executing the audit function. Moreover, the more the operations are

being complex, the greater the number and level of difficulties which arise in performing the audit.

2.2.3.3 Corporate Risk

Chan *et al* (1993) viewed corporate risk as being an important factor that determines audit fees; Francis and Stokes (1986), Gregory and Collier (1996) and Joshi and Al-Bastaki (2000) reported significant and positive association between the level of gearing risk and audit fees but Francis and Simon (1987) found the relation is insignificant.

The corporate risk factor is likely to be emphasized due to the probability that an auditor will suffer loss or injury in his professional practice. Such loss or injury may arise through lawsuits against the auditor, sanctions imposed by external regulators, diminution of the auditor's professional reputation, possible loss of clients, time and costs incurred in defending the auditor's position and non-realization of audit fees. In addition to the audit risk which is the likelihood that an auditor will render an inappropriate opinion on an auditee's financial statements (Jubb *et al*, 1996).

2.2.3.4 Type of Auditing Firm

Simunic, (1980) referred to the audit firms classification into two main categories: Big Eight or non-Big Eight firms. This classification assumes

the existence of monopoly market for audit services which have exploited available economies of scale.

High audit fees are usually charged by audit companies which offer high quality services (Naser and Al-Khatib, 2000). Moreover, the Big 4 audit companies usually avoid the association with risky clients or request very high fees if they accept the mission (Willenborg, 1999). Most of the times, the association between the client's name and a very well reputed auditor leads to the improvement of the way the company is regarded by stakeholders or in other words, leads to the improvement of the company image (Chersan *et al*, 2012).

Many studies attempted to study other determinants for audit fees such as industry of the auditee (Simunic, 1980), profitability (Naser and Nuseibeh, 2008), internal control (Chersan *et al*, 2012; kutob and Al-Khater, 2004), performance (Chersan *et al*, 2012), Company growth, Company's financial situation (Nathalie and Alain, 2007), and types of reports (Al-hmoud and Ibrahim, 1996; Hay *et al*, 2006a).

2.3 Agency Costs

2.3.1 Agency Theory

Jensen and Meckling (1976, p 309) described the agency relationship as: a contract under which one or more persons (the principals) engage another person (the agent) to perform some services on their behalf which involves delegating some decision-making authority to this agent.

As a result, the principals (owners) entrust agents (managers) to run the company on their behalf; thus agents have a large amount of control as to how decisions are made in companies (Jensen and Meckling, 1976).

Agency theory is based on the assumption that each party (the principals and agents) will act on their own interest owing to the argument that the agents do not necessarily have the same incentive as the principals of the company. But the principal realize this assumption and it could be observed through the reduction in demand for company shares or remuneration packages for agents that make the assumptions as to their behavior (Adams, 1994). Therefore, if both parties strive to maximize their utility, there is a possibility that the agent will choose to act in his own interests and not in those of the principals, this results in conflict of interest problems (Jensen and Meckling, 1976).

According to that the agents might enjoy first class travel, dining and accommodation, which may be more than necessary for the company. However, on a more significant (sometimes possibly illegal) note, they might manipulate earnings in short term to earn bonuses, which would not be in the interest of the company in the long-term (Philomena *et al*, 2011).

Some studies on managerial compensation have generally found that company size increases manager remuneration (Jensen and Murphy 1990; Conyon and Murphy 2000). This provides management with an incentive to focus on company size growth, rather than growth in shareholder returns. Managers also tend to pursue growth by diversifying.

Jensen and Meckling (1976) clarified that the conflict of interest problem may arise from information asymmetry problem. In which, the agent as the party with greater involvement in the company, has an access to the information which may not be available for the principal without cost. The agent has the opportunity to use this information to his own advantage.

The information asymmetry problem has two elements which are moral hazard and adverse selection. Moral hazard refers to the situation where the agent may have an incentive to act inefficiently due to the opportunity to use the information he/she has for his/her self-interest and at the expense of

the principal (Beaver, 1989). It also may arise when the principal is not able to monitor the agent's behavior, but is able to judge the outcome. Soltani (2007) summarizes the adverse selection problem as when the principal is able to observe the agent's behavior but not his performance. This may be a result of weak proxies measuring the quality of the performance. If the performance of the agent cannot be or is improperly measured, there is an increased likelihood that the agent's performance will be below expectations. So Arrow (1985) had defined the moral hazard problem as hidden actions and the information asymmetry as hidden information.

These types of actions obviously cause a problem for agents because even if they are acting in the best interests of organization, the owners will be penalizing them on the assumption they are not. In the final analysis, the agency theory suggests that managers produce financial reports to shareholders to try to alleviate their concerns. However there is still a risk that this information may be biased (Philomena *et al*, 2011).

To limit the divergences of interests, Beaver (1989) pointed out that the monitoring theory strives to solve the conflict of interest and information asymmetry problems. Where, public disclosures have been seen as one way which has played an important role on the monitoring theory. Thus, the

theory has been seen as restricting the superior information position of management (Healy and Palepu, 2001). Further, an independent auditor can be contracted to inspect the information environment. From this point of view, auditing has been seen as another way of controlling the monitoring theory which finally reduces the agent's chances to withhold material information from the principals (Beaver, 1989). Hence, the monitoring role that has been played by auditing through audit fees payments for the efforts and time exerted for auditing process that will increase the value of the firms when there are agency problems (Hay and Davis, 2004).

Adams (1994) observed that, in order to ensure the optimal level of interest alignment and information asymmetry, both principals and agents will incur contracting costs. For example, principals, on the one hand, will incur monitoring costs from subjecting the financial statements to external audits. Agents, on the other hand, will incur bonding costs, for example the financial reporting and internal audit (Adams, 1994).

Agency costs are the expenses incurred from the contracting process (Adams, 1994). The principal can, in general, reduce agency costs by monitoring. However, monitoring may also involve costs like audit fees. Fama and Jensen (1983) defined agency costs as the costs of structuring, monitoring, and bonding a set of contracts among agents with conflicting

interests. Agency costs also include costs that result from the difficulty of monitoring all contracts perfectly (Jensen, 1986). Hence costs incurred from principals' monitoring actions are one component of agency costs (Jensen and Meckling, 1976) in which audit fees can be seen as an important component for monitoring costs (Gul and Tsui, 2001; Nikkinen and Sahlstrom, 2004).

According to Wang (2010), there were seven proxy variables suggested to measure the agency costs. These are: total asset turnover, operating expense to sales ratio, administrative expense to sales ratio, earnings volatility, advertising, research and development expense to sales ratio, floatation cost, and FCF. While, Gul and Tsui (1998) pointed to the FCF is the best proxy for agency costs among the above variables.

2.3.2 Free Cash Flow Hypothesis

According to Jensen (1986), the FCF can be defined as net cash flows of operating activities less capital expenditure, inventory cost, and dividend payment. But this definition was criticized in the ground of a lack of accounting preciseness (Wang, 2010). While Lang *et al* (1991) defined FCF as operating net income before depreciation expense, less corporate income tax, interest expenses, and cash dividends. The advantage of this

definition was that it has indicated how much the actual FCF was available for management to exercise (Wang, 2010).

Jensen (1986) FCF hypothesis stated that the agents tend to invest their FCF in new-project because they have the incentives to make the firms grow. Growth increases agents' power by increasing the resource under their control. However, the FCF causes potential conflict of interest between agents and principals. On the one hand, principals wish the FCF to be paid as dividend. On the other hand, agents tend to invest the FCF in new projects. Agents might think that payout to principals would reduce the resources under their control, thereby reducing their power (Talebnia and Tavajjoh, 2012). Thus the agents tend to abuse the FCF in hands, inefficient resource allocation, and wrongful investment (Talebnia and Tavajjoh, 2012). In addition, agents could prompt to invest unnecessary, negative NPV projects (Rubin, 1990). Furthermore, the hypothesis implies that a higher level of FCF would lead to more of unnecessary administrative waste, internal inefficiency, and corporate resources waste, which lead finally to an increase in agency costs (Talebnia and Tavajjoh, 2012). Hence, Jensen (1986) identified that FCF as one of sources that created agency costs which have resulted from probable increase of value harmful investments besides opportunistic and inefficient behavior from agent's side.

FCF is considered as one of the effective factors which impact on auditing fees variations for compensating extra risk and inherent risk (Mosavi *et al*, 2012). Hence, ceteris paribus, auditors are likely to assess firms with high FCF and devote more resources to those audited firms and charge them higher fees; therefore auditing fees should be high for the companies with high FCF (Gul and Tsui, 1998).

Griffin *et al* (2010, p 323) contend that companies with high FCF and high growth prospects have higher audit fees. First, these companies can fund growth opportunities internally and are, thus, less subject to capital market scrutiny, which may require more auditing involvement. Second, these companies can be more difficult to audit when they involve intangible assets and growth options, which potentially increase audit effort and risk. Third, the literature offers empirical evidence (Myers, 1977) that high growth companies tend to have less debt levels to prevent loss from the underinvestment problem, which reduces debt monitoring, and such relative lack of debt monitoring creates additional monitoring duties for auditors.

While, FCF agency costs become particularly acute for firms with low growth opportunities (Habib, 2011). In which the agents of these firms are

more likely to participate in value destroying activities which included excessive consumption of perquisites, masking of non-optimal expenditures, misappropriation of assets, and salary enhancement (Jensen, 1986; Jensen, 1989; Shleifer and Vishny, 1989; Lang *et al*, 1991; Christie and Zimmerman, 1994), as well as, the manipulation of accounting numbers to camouflage the effects of the non-wealth-maximizing investments which would be reflected in the stock price (Chung *et al*, 2005).

Results of (Gul and Tsui, 1998) and (Griffin *et al*, 2010) studies indicated that firms with high FCF and low growth opportunities are associated with higher audit fees owing to the managers opportunistic behaviors where the auditors may judge those firms as having higher probability of miss statements and thus such firms have audit implications in terms of higher inherent audit risk (Gul and Tsui, 2001). Consequently, external auditors perceive those firms with high audit risk to exercise more audit effort, which resulted in higher audit fees that supports the view that auditors recognize and address the acute agency costs of FCF (Wang and Yang, 2010).

Jensen (1986; 1989) suggested that managers of low growth and high FCF firms tend to mitigate the FCF agency costs by using different techniques.

Jensen (1986) suggested that dividend can be employed as one of these tools which are used to solve the FCF agency costs. The dividend can reduce the amount of cash available under management control. Provided that, managers are obliged to distribute the cash amounts as regular dividends instead of using it to expand the number of projects with negative NPV, the auditors should respond to the agency low charge or fees reduction (Jensen, 1986). Dividends become a commitment once declared (Mosavi *et al*, 2012). Nevertheless, the dividends are classified as flexible; as it can be decreased in the future although the shareholders perceive this decrease as a malfunction signals for bad performance (Griffin *et al*, 2010).

Jensen (1986; 1989) also suggested that managers can use debt as another technique to monitor and mitigate the agency costs of companies with high FCF and low growth prospects. Issuing debt is supposed to present fixed obligations debt (paying debt and the interests) which will be paid in the future by the company (Tarek, 2007). Debt creation enables managers to effectively bond their promise to pay out future cash flows (Mosavi *et al*, 2012). However, debt is considered as a "good" mechanism to manage excess cash. First, it prevents the managers from consuming financial resources (Tarek, 2007). Second it can reduce the available cash amount to managers that might be used for optional payments (Griffin *et al*, 2010)

through the required payments which provide a monitoring mechanism that mitigate the agency costs of FCF (Gul and Tsui 1998).

Jensen (1986) argued that using debt can mitigate the agency costs of FCF in the case that the firms used an optimal level of debt through reducing the cash available for discretionary spending. Therefore, higher debt should serve as a mechanism to reduce auditors' monitoring of FCF, which should reduce audit fees. On the other hand, beyond the optimal level, additional debt could motivate misstatements by management to avoid violations of accounting-based debt covenants (Griffin *et al*, 2010). Moreover, higher debt gives shareholder recipients of the debt the right to take the firm into bankruptcy court if they do not maintain their promise to make the interest and principal payments (Mosavi *et al*, 2012).

Gul and Tsui (1998, 2001), Ferguson and Taylor (2007) and Griffin *et al* (2010); studied the effect of debt as control variable for companies with high FCF and low growth prospects on audit fees in order to balance and moderate the relationship between FCF and audit fees.

Results of Gul and Tsui (1998) indicated that the interaction between FCF and debt is significant and in the predicted direction. Gul and Tsui (1998, 2001) documented a positive relation between the agency costs of FCF and

audit fees for low growth companies, besides the using of higher debt weaken the relationship (Gul and Tsui, 2003). While for high growth companies, Gul and Tsui (1998) have found an insignificant relation between FCF and audit fees and no evidence of a moderating role of debt.

This suggests that the FCF and audit fees association depends on the debt level; auditors of high FCF and high debt firms are likely to assess a lower risk of material misstatements, provide lower audit effort and charge lower audit fees than auditors of high FCF and low debt firms (Gul and Tsui 1998).

Ferguson and Taylor (2007) questioned about the positive relation between FCF agency costs and audit fees and argue that Gul and Tsui (1998, 2001) may have stretched the role of auditing too far. Meanwhile, Ferguson and Taylor (2007) found that there is no evidence of a positive association between FCF and audit fees or of the moderating role of debt (Griffin *et al*, 2010).

Unlike Gul and Tsui (1998, 2001) and Ferguson and Taylor (2007), Griffin *et al*, (2010) found that the higher debt moderates the agency cost of FCF as reflected in audit fees. Overall, results indicated that the higher debt

levels moderate the increased audit fees regardless of the level of companies' growth opportunities.

Griffin *et al* (2010) was the first one who studied the effect of dividend as control variable for companies with high FCF and low growth opportunity on audit fees in order to balance and moderate the relationship between FCF and audit fees.

The results of Griffin *et al.*, (2010) have showed that no evidence that dividend payouts play an equivalent moderating role. Further, as dividends alone may not be sufficient to reduce agency costs of FCF. Griffin *et al.,* (2010) examined whether dividends can complement if not substitute for debt, and help increase total free cash payout. Therefore, the results support the conclusion that dividend cannot significantly moderates the positive relation between FCF and audit fees. (Griffin *et al*, 2010). While, debt can be an effective substitute for dividends (Mosavi *et al*, 2012) for two possible reasons: First, dividends are more flexible than debt repayment. Moreover, they generally involve no contractual commitment by managers to shareholders, making them easier to cut or scale back. Second, due to a pecking order theory, the debt and interest components of FCF are paid first. Less uncertain components are paid as dividends. Both reasons

suggest that debt may be a better control mechanism to force managers to pay out future cash. (Griffin *et al*, 2010).

Griffin *et al*, (2010) results also support the debt-monitoring hypothesis in the context of auditing in which the audit fees vary negatively with debt for companies with high FCF. However, there is no evidence to suggest that audit fees vary negatively with the interaction of FCF and dividends.

Chapter Three
Literature Review

3.1 Introduction:

Audit fees topic has attracted a great deal of research and still keeps its prominent place in the accounting and auditing literature. However, it is still not satisfactory in explaining how audit fees vary with agency costs of FCF. Therefore this chapter sheds some light on the empirical studies which attempted to identify the variables responsible for explaining variation in audit fees between companies. The studies reviewed are classified into two groups. The first group includes studies which attempted to identify the determinants of audit fees. While the second group focused on studies which attempted to employ agency theory to explain variations in firms' audit fees.

3.2 Determinants of Audit Fees

Simunic, (1980) tested the competitiveness in the audit industry with a focus on the Big Eight firms. In addition, the study tested the existence of price competition in the audit market. The sample of the study included 397 observations on audit fees and related variables drawn from a sample survey of publicly held corporations in the United States of America (USA) during 1977. The data were analyzed using a series of least-squares

regressions where the specification of the regression equations was derived from the model of audit fee determination. The results of the regression analysis identified number of determinants of audit fees as following: auditee size, the complexity of auditee's operations, audit risk, and the industry of auditee. In addition, the study failed to reject the hypothesis that price competition prevails throughout the market for financial audit services.

Firth, (1985) examined the audit fees determinants in New Zealand. The sample of the study consisted of 96 manufacturing companies listed on the New Zealand Stock Exchange for the years 1981 and 1983. Using regression analysis, the results found a significant relationship between audit fees and the following variables: auditee size, auditee complexity, and audit risk, while there are no statistically significant relationship between audit fees and both of profitability and the auditing firms' variables.

Chan *et al*, (1993) examined the determinants for the variations in the level of audit fees in United Kingdom (Uk). To achieve the objective of the study, the data were collected from the financial statements which were obtained from Companies House and the London Business School Risk Measurement Service for a sample of 280 Uk quoted companies. Besides the interview to eight partners in four of the Big Six audit firms to collect

the data. The multivariate regressions models were conducted to analyze the data. The results showed that the following variables: auditee size, auditee complexity, ownership control, diversification, and audit location are important factors in explaining the variations in audit fees in addition to have significant relationship with audit fees.

Al-Hmoud and Ibrahim, (1996) aimed to identify the determinants of audit fees and their importance to auditors and public corporations. Data were obtained from questionnaire which was distributed to all audit firms and all public corporations in Qatar. The results of the study indicated that the most important determinants of audit fees from the auditing firms' side were: the efficiency, the scientific degree, practical experience, the type of service performed by the auditor. While the most important determinants of audit fees from the audited companies' side were: the safety of the internal control system, the size of auditee, and the number of the activities.

Kutob and Al-Khater, (2004) examined the determinants of audit fees and the factors affecting them. To achieve the objective of the study, a questionnaire was distributed to all listed companies on Doha Stock Market (DSM) in Qatar. The results of the multiple regression model indicated that the most important factors in determining audit fees from the audited companies' viewpoint were revenue of audited company, its number of

branches, and type of industry in which it operates. While the most important factors from the auditing firm viewpoint was the competitive position (reputation) of auditing firm. Moreover, the study found that audit fees are significantly associated with the following variables: total assets of the audited firm, number of branches, net income, type of industry, accounts receivable ratio to total assets, and the number of hours required for audit process.

Hay *et al*, (2006) evaluated a large body of prior literatures related to audit fees determinants over the past 25 years that investigated a number of client and auditor attributes that are associated with higher or lower levels of audit fees. They summarized the nature of the independent variables included in earlier studies and evaluated whether the results of a set of studies represent similar phenomena. The meta-analysis was conducted for set of papers that were published over the period 1977-2002 and included more than 20 countries. The findings of the study showed that many fees drivers have consistent results across studies, samples, and countries. However, the results also indicated that findings of previous studies were inconsistent for some variables. These variables included a loss by the client and leverage, internal auditing and governance, auditor specialization, and the audit opinion. Then they develop some theoretical reasons why these anomalies, mixed results, and gaps in audit fee research

may occur. They concluded that there is a need for further research on the topics.

Ji-hong and Liu, (2007) examined the determinants of audit fees and the factors affecting them. Data were drawn from the annual report for a sample of 174 Chinese companies listed on Shanghai and Shenzhen Stock Exchanges for the year 2004. By using stepwise OLS regression analysis, the results showed that the determinants of audit fees in China are: auditee size, auditee complexity, audit risk, and auditor size. In addition to the significant association between audit fee from one hand and auditee size, auditee complexity and audit risk on the other hand.

Nathalie and Alain (2007) investigated the audit fees determinants in France. Data is drawn from annual reports for French companies listed on the SBF 250 index in 2002 for a sample of 127 industrial and commercial public French firms. Linear regressions models were run to analyze the data. The results showed that the audit fees depend on firm size, firm risk, industry or the sector of the activity, the firm complexity, and the growth of the firm.

Mellett *et al*, (2007) aimed to identify the audit fee determinants in UK university sector and examined the association between audit and non-audit

fees. The sample of the study consisted of 110 old and new universities listed on the Directory of UK Universities in 2002. The data were collected from the annual report of the universities. The regression model was run in addition to a cross-sectional multivariate analysis were developed with the service sector in the private sector to analyze the data. The results provided new evidence on the UK universities audit market and also showed that the determinants of audit fees in the UK University market the same of the determinants for service industry which are the auditee size, audit complexity, audit risk, auditor location, and auditor type. The results also demonstrated a positive relationship between audit and non-audit fees for the UK university market, and have found significant difference between the average audit fee paid by universities and by the service industry.

Naser and Nuseibeh, (2008) examined the effect of number of variables (corporate size, the status of the audit firm, the degree of corporate complexity, profitability, risk, corporate accounting year end and the lag between the audit report and the end of the accounting year) on audit fees. The sample of the study consisted of 202 companies listed on the Amman Stock Exchange (ASE). Using multiple regression analysis, the results found significant relationship between audit fees and the following variables: corporate size, status of the audit firm, industry type, degree of corporate complexity, and risk. However, variables such as corporate

profitability, corporate accounting year-end and time lag between year-end, and the audit report date appeared not to have significant impact on audit fees.

Suwaidan (2010) examined the impact of size of audited company, complexity, audit risk, industry type, and size of auditing firm on audit fees. The study was conducted at two levels: aggregated and industry (sector) level. A multiple regression analysis was employed to test a sample of (107) companies listed on the ASE for the year 2003 in Jordan. The results indicated that there is a positive and significant relationship between the size of the audited company, the number of its branches, and the size of auditing firm with audit fees. In addition, the analysis revealed that there is a significant difference between audit fees for banks and audit fees for other types of industry. As for the multiple regression analysis for each industry (sector), the results revealed that the size of the audited company is the most important variable in determining the audit fees for each industry.

Suwaidan and Qasim, (2010) investigated the external auditors' reliance on internal auditors and its impact on audit fees. Moreover, the study examined the perceptions of external auditors to a number of factors which may influence their reliance on internal auditors during their external audit

work. The data were collected from a questionnaire that was distributed to a sample of 100 Jordanian external auditors. The results indicated that external auditors in Jordan consider objectivity, competence and work performance of internal auditors as very important factors affecting their reliance decisions. Also the results of the multiple regression analysis indicated that the size of the audited company is the most important variable in explaining variations in audit fees paid by the sample companies. As for the reliance variable, it is found insignificant.

Fukukawa, (2011) aimed to investigate whether and how audit fee determinants that examined in prior studies can influence audit fees and costs in the Japanese audit market and to examine whether audit pricing and cost strategies differ among Japanese Big 3 firms. Based on data pertaining to the 2006 audits of publicly listed companies conducted by Japanese Big 3 firms, the results revealed that the client size, complexity, and audit risk are the determinants of audit fees which influence on audit fees too on one hand, whether the client is an SEC registrant, the audit firm's market share in the industry, and client bargaining power had an influence on audit costs on the other hand. While other variables such as the client's location, fiscal year end, and the audit firm's differentiation influence only either audit fees or costs, or affect both audit fees and costs

in opposite directions. Furthermore, the relationships between audit fees or costs and the determinants vary among Big 3 firms.

Hay, (2012) in another study evaluated prior research that screened the determinants of audit fees over the past three decades; besides he investigated the changes observed in recently-published studies on factors related to audit fees. Meta-analysis method was employed to check the accumulated effect of the drivers of audit fees identified in papers published subsequent to the data used in a recent meta-analysis (Hay *et al*. 2006), in addition to the accumulated evidence from period covered by the previous studies together with papers published subsequent to that study. The results showed that there is evidence that audit fees are positively associated with internal control and with corporate governance besides the evidence regarding the audit fee premiums for Big 4 firms and industry specialist auditors. Thus, the positive relationship between non-audit services and audit fees is reinforced, as well as the analysis also showed that longer audit tenure is associated with higher fees.

Chersan *et al*, (2012) aimed to identify the determinants of the audit fees in USA, and test the relationship between the audit fees and the financial performance. The data were collected for a sample of the first 100 companies on New York Stock exchange (NYSE) in USA except the

companies in the investment funds and insurances field. The linear regression analysis (simple and multiple) and the variance analysis were used to analyze the data. The results showed that the audit fees determinants were as following: corporate risk, corporate complexity and the size of auditing firm, moreover they indicated that there is a significant relationship between audit fees and financial performance.

3.3 Audit Fees and Agency Costs

Chow, (1982) used the agency theory framework to analyze firms' incentives to hire external auditing. He argued that firms hire external auditors to help controlling the conflict of interests among firms' managers, shareholders, and bondholders. He examined the effect of leverage, firm size, and number of accounting-based debt covenants on the probability of voluntarily engage external auditing. Univariate and multivariate tests besides the survey were conducted on a sample of 165 NYSE and Over the Counter (OTC) firms for the year 1926 in USA. The results generally supported the effects of leverage and accounting-based debt covenants, and moderately supported the predicted role of firm size. Manager ownership effects could not be tested due to data problems. Beside the important role which is played by agency cost in an external auditing decision.

Gul and Tsui, (1998) investigated the relationship between agency cost of FCF and audit fees and the association between FCF as a source of agency problems and audit fees for low growth firms in a level of debt which moderate this relationship. Data were collected for publicly listed Hong Kong companies for 1993. Two multiple regression models of audit fees were run for low growth firms audited by the Big 6, using two FCF proxies suggested by Lang *et al*. (1991, p. 319). Each of the two models includes an interaction term for the FCF proxy and debt. The results indicated firms with high FCF and low growth opportunities are associated with higher audit fees than firms with low FCF and low growth opportunities. More importantly, the interaction between FCF and debt is significant and in predicted direction. Moreover the positive FCF and audit fees association is expected to be weaker for low growth firms with high debt than for similar firms with low debt.

Gul and Tsui, (2001) again tested the association between FCF and audit fees for low growth firms relying on levels of director ownership. Depending on the debt monitoring hypothesis the test of FCF and director equity ownership interaction for firms with a level of debt is conducted, the FCF and director ownership interaction is expected to exist for firms with low growth and low debt firms. Finally, an additional overall test was conducted for low growth firms with a three-way interaction between FCF,

director ownership, and debt. Ordinary Least Square (OLS) regression analysis was used for pooled cross-sectional data of 157 and 140 low growth Australian firms audited by Big 6 auditors for the years 1992 and 1993. The result of the role of director ownership showed that FCF is not only significantly and positively related to audit fees, while there is also a significant negative interaction between FCF and director ownership of shares is found for firms with low debt but not for high debt. Finally, results on the three-way interaction among FCF, director ownership, and debt show that FCF is positive and significant, the FCF and director ownership interaction is negative and significant, and the three-way interaction is positive and significant.

Nikkinen and Sahlstrom, (2004) conducted a test on whether agency theory provides a general framework for audit pricing, and whether audit fees are determined by agency theory and a set of other factors. Toward this, the audit pricing in seven countries representing different kinds of accounting and economic environments was analyzed. The dataset was drawn from the World scope database for the following seven countries: Denmark, Hong Kong, Malaysia, Singapore, South Africa, Sweden, and the UK. The sample covered only publicly listed firms from the selected countries for the period 1992–2000. The regression model is applied to analyze these data. The results of this study confirmed that a negative

relationship exists between audit fees and manager ownership and a positive relationship exists between audit fees and FCF in several countries. This implies that agency theory can be used, at least to some extent, to explain audit fees internationally. Moreover, agency theory explains audit fees similarly across countries while the control variables have different impact on audit fees. In general, the results imply that agency theory can be used, at least to so extent, to explain audit fees internationally.

Kevan *et al*, (2005) explored the association between agency costs and audit-procurement practices, and the association between audit-procurement practices, audit quality, and audit fees. Using a sample of 228 municipal organizations of cities in the Southeastern United States in 1998, data was collected from questionnaire method and from the financial statements of the sample; regression model was run to analyze the data. The study found that cities facing higher levels of agency costs, and cities that rely more on their external auditors to relieve such costs, tend to have better-developed audit-procurement practices, in addition to an evidence that well-developed audit-procurement practices (and individual audit-procurement elements), are associated with the hiring of auditors who have higher levels of industry experience-suggestive of higher audit quality. Finally, evidence is found suggesting that well-developed audit-procurement practices have a minimal combined effect on audit fees;

however, individual audit-procurement elements are associated with audit fees.

Ferguson and Taylor, (2007) examined the relationship between FCF agency problems and audit fees and investigated the role of debt as a moderating role in this relationship. Based on Australian companies, the results showed that there is no evidence of a positive association between FCF and audit fees or of the moderating role of debt. They interpret their results in keeping with Australian Auditing Standard 202 (AUS 2002), which states that the role of an audit as a governance mechanism should not extend beyond assurance of the "identified financial reporting framework" (AUS 202.02) and, therefore, auditors have no need to incorporate the risks of agency problems of FCF into a statutory audit.

Griffin *et al*, (2010) examined the relationship between audit fees and agency cost that arise from excess FCF. Moreover, the study tested whether using debt, dividends and share repurchase can mitigate the agency problem of FCF which moderate FCF and audit fees association. The data was gathered for all USA public listed companies for the period between 2000 and 2006 from both of the audit analytics database, and from the financial statements. Regression model is run to analyze these data. Results indicated that the agency problems of companies with high FCF and low

growth opportunities encourage auditors of companies in the United States to raise audit fees to compensate for the additional effort. Also the study found that the high FCF companies with high growth prospects have higher audit fees. Furthermore using higher debt levels can be used as a mechanism to reduce the agency costs of FCF and moderate the audit fees and agency cost of FCF association, while using dividend and share repurchase don't have any effect on audit fees and agency cost of FCF relationship.

Ebrahimi *et al*, (2011) investigated whether audit fees for companies with high FCF, low growth, and low dividends-to-market value of stock ratio is greater than auditing fees for companies with high FCF, low growth and high dividends-to-market value of stock ratio or not. This study was conducted on manufacturing companies listed on Tehran Securities Exchange from 2002 to 2008 in Iran. The results showed that the auditing fees for companies with high FCF, high growth opportunity, and low dividends-to-market value of stock ratio is higher than the auditing fees for companies with high FCF, high growth opportunity, and high dividends-to-market value of stock ratio.

Wang and Yang, (2011) tested the association between audit fees and management entrenchments (corporate governance) controlling the other

factors. In addition, an examination whether agency problems can moderate the association between audit fees and management entrenchment was take place. Data were collected for a sample consisting of 2,510 USA firms for the period from 2000 to 2004. The results of regression analysis indicated that audit fees are significantly and positively correlated with entrenchment index. Furthermore, the results showed that the positive relation between audit fees and the entrenchment index only in firm with low growth opportunity and high FCF, which indicates that the agency problems of the companies moderate the association between audit fees and management entrenchment. These results provide empirical evidence that the association between audit fees and entrenchment provisions is contingent on firms' agency problems.

Hope *et al*, (2012) investigated the relationship between agency costs in private firms and both of ownership structures and family relationships. In addition, the study investigated the relation between agency costs and audit fees in private firms. The examination took place for the increase of auditors' effort and firms' choice of auditors in situations with higher level of agency costs. The dataset was drawn for Norwegian private firms that are not publicly traded on a stock exchange covering the period of time 2000 to 2007. The results showed that audit fees (the proxy for auditor

effort in the face of agency costs) vary with expected agency costs. In addition, the audit fees vary with firm-level characteristics related to ownership structures and family relationships. Evidence was found that firms in higher agency cost settings respond by having their financial statements audited by a higher-quality auditor like a Big 4 firm.

Mosavi *et al*, (2012) examined the relationship between agency costs of FCF and audit fees, and tested whether using of debt and dividends can mitigate the agency costs of FCF which moderate FCF and audit fees association. In order to achieve this, data were collected from information stipulated in financial statements and notes of 50 companies listed in Tehran Stock Market in Iran. The companies were divided into two groups; lower and upper classes. Pearson correlation coefficient and multivariate regression were employed to analyze the data. The results indicated that there is a positive relationship between agency costs of FCF and audit fees. Moreover, the debt can be used as a good mechanism to mitigate agency costs of FCF which effect on auditing fees. While dividend didn't have any effect on audit fees and agency costs of FCF relationship.

3.4 What Differentiates this Study?

The previous studies offer mixed evidence on the relation between audit fees and the agency costs of FCF and how the agency costs can explain the variation in audit fees, thus from the above-mentioned literature, it could be noted that most of (to the best of the researcher's knowledge) studies about the relationship between audit fees and agency cost have been conducted in the developed countries, while no studies have been conducted in emerging countries like Jordan. Therefore, the significance of this study lies in the following:

- It is the first study (to the best of the researcher's knowledge) that examines the relationship between audit fees and agency cost in the context of a developing country (Jordan).

- It attempts (to the best of the researcher's knowledge) to address new issues in which it contribute in our knowledge about variables that haven’t been measured its impact on audit fees in Jordan.

Chapter Four
Research Methodology

4.1 Introduction

The current study aims at investigating the impact of agency costs of FCF on audit fees, of a sample of manufacturing and service companies listed on ASE for the year 2011. This chapter provides the methods and tools that are used by the study to accomplish its objectives.

4.2 Population and Sample

The population of the study consists of all manufacturing and services companies listed in ASE at the end of the year 2011. The total number of companies in the two sectors was 124 companies. The sample of the study consists of all manufacturing and service companies that satisfy the following conditions:

1. The company disclosed the audit fees for the year 2011.
2. The company's financial statements were available.

The application of the above conditions resulted in a sample of 110 companies. Table (4-1) provides information about the distribution of the sample companies to manufacturing and service sectors.

Table (4-1)

The Distribution of the Sample Companies to Sectors

Sector	Number of firms	%
Services	49	44.5
Manufacturing	61	55.5
Total	110	100

4.3 Data Collection

Information about the sample companies was collected from companies' annual reports and from the 2012 Companies Guide issued by the ASE for the year 2011.

4.4 Empirical Model Specification

The current study aims at investigating the impact of agency costs of FCF on audit fees for Jordanian firms listed on the ASE. Hence, the empirical models will be formalized and tested using a model regression technique to achieve the study objectives.

4.4.1 Audit Fees Model Specification

The empirical model specification of audit fees determinants is formalized as following:

$$LAF_{ti} = \beta_0 + \beta_1 * SIZE_{it} + \beta_2 * DA_{it} + \beta_3 * DIVIDEND_{it} + \beta_4 * QUICK_{it} + \beta_5 * ROI_{it} + \beta_6 * INDUSTRY_{it} + \beta_7 * SUB_{it} + \beta_8 * NOB_{it} + \beta_9 * FCF_{it} + \beta_{10} * AUD_{it} + \beta_{11} * GROWTH_{it} + e$$

Table (4-2) provides information about the variables, their measurements, and their definitions.

Table (4-2)
The Model Variables

Variables Abbreviation	Measurement	Definition
$\beta_0 - \beta_{11}$	Beta	Regression Coefficient from zero to eleven.
LAF	Audit Fees	Natural logarithm of total audit fees in thousands of Jordanian Dinar.
SIZE	Corporate Size	Natural logarithm of total assets in thousands of Jordanian Dinar.
DA	Leverage Ratio	Ratio of Total Debt to Total Assets at the End of the Year.
DIVIDEND	Dividend Yields	Total Dividends Declared for Common and Preferred Shares during the year to Market Capitalization (MVEQUITY).
QUICK	Corporate Liquidity	Ratio of Current Assets Less Inventories to Current Liabilities.
ROI	Corporate Profitability	Net Income to Total Assets.
INDUSTRY	The Sector Type	One if the auditee firm is manufacturing or zero if it is service firm.
SUB	Corporate Complexity	the Number of corporate subsidiary which equals one if the firm have subsidiaries or otherwise equals zero.
NOB	Corporate Complexity	the Number of corporate branches which equals one if the firm have branches or otherwise equals zero.

FCF	Free Cash Flow	Operating Income before Depreciation Less Taxes, Interest Expenses, Preferred and Ordinary Dividends to Total Book Value of Total Assets in the Previous Year.
AUD	The Type of Auditing Firm	One if a company is audited by Big 4 or zero otherwise.
GROWTH	Growth Opportunities	Market Value of Equity Plus Book Value of debt to Book Value of Assets at the Year-end which equals one for high growth firms or zero for low growth firms.
e	Error Term	

The multiple regression model in this study contains twelve variables, one dependent variable which is audit fees (LAF) and one independent variable which is Free Cash Flow (FCF). In addition, there are ten control variables that classify to continuous and dummy variables, on one hand there are five continuous variables which are: the corporate size (SIZE), total debt to asset ratio (DA), dividends yields (DIVIDEND), quick ratio (QUICK), return on investment (ROI), and five dummy variables on the other hand which are: growth opportunities (GROWTH), the type of sector (INDUSTRY), the corporate subsidiaries (SUB), the corporate branches (NOB), and the type of auditing firm (AUD).

4.4.2 Proxies for Variable Measurement:

4.4.2.1 The Dependent Variable

The dependent variable for the current study is audit fees. It represents the Natural logarithm of total audit fees, which are paid to external auditor for auditing financial statements for the year 2011.

4.4.2.2 The Independent Variable

The independent variable in this study is agency costs measured by FCF. According to Lehn and Poulsen (1989) FCF can be measured by operating income before depreciation minus taxes, interest expenses, preferred dividends, and ordinary dividends, normalized by either the total book value of equity or total assets in the previous year.

Therefore, in this study the use of agency costs that is measured by FCF to book value of total assets in the previous year.

4.5 Hypotheses of the Study

The following hypotheses of are formalized to test the impact of agency costs of FCF on audit fees for firms listed on the ASE:

H_1: There is a significant positive relationship between audit fees and FCF for companies listed on the ASE.

H_2: Audit fees for high growth firms will be higher than for low growth firms at any level of FCF.

In addition to the above major research hypotheses, the study will examine the impact of other (control) variables on audit fees. These variables are:

- Corporate size.
- Auditing firm (Big Four versus none Big Four).
- Debt to asset ratio.
- Dividends yields.
- Quick ratio.
- Industry type.
- Return on investment.
- Corporate branches.
- Corporate subsidiaries.

Chapter Five
Data Analysis

5.1 Introduction

This chapter presents the results of the study and discusses its findings. As discussed in the previous chapter, the collected data were analyzed using a multiple regression model.

5.2 Descriptive Analysis

Table (5-1) demonstrates the descriptive statistics of the study variables.

Table (5-1)
Summary of Descriptive Analysis (in Jordanian Dinar)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
LAF	110	1670 JD	152909 JD	16069.88	24194.173
SIZE	110	490049 JD	1223269000 JD	65556791.39	167178837.987
DA	110	0.0041	0.8953	0.341622	0.2165179
DIVIDEND	110	-5.0792	3.4974	0.201039	0.8194515
FCF	110	-0.3142	0.1757	-0.018718	0.0772904
QUICK	110	0.0151	18.1136	1.802195	2.2409784
ROI	110	-2.3400	0.2848	-0.013665	0.2444960
Valid N (list wise)	110				

As seen from the table, the sample includes (110) companies, the ranges (differences between minimum and maximum values) of all variables were quiet wide. For example, the audit fee, which is the dependent variable, ranged from (1,670) JD to (152,909) JD which indicates that there was a very high variety in audit fees among studied companies. Whereas the minimum amount of the independent variables (FCF) was (-0.3142) JD and

the maximum was (0.1757) JD, which also indicates a very high variety in FCF. This also applies to the ranges of the (the continuous variables) which are also quiet wide as appear in table (5-1).

Focusing on the dependant variable (audit fees) in the analysis; the results showed that the mean of the audit fees was (16069.88) JD with a standard deviation of (24194.173) JD which reflects the high variability in audit fees that paid by the Jordanian manufacturing and services firms. However, the mean of independent variable (FCF) was (-0.018718) JD with a standard deviation of (0.0772904) JD that identifies a high agency costs in manufacturing and services firms in Jordan.

Table (5-2) presents the descriptive analysis for the dummy variables in this study.

Table (5-2)
Summary of Descriptive Analysis

	Frequency	Total	%	Total
INDUSTRY				
• Services	49	110	44.5	100.0
• Manufacturing	61		55.5	
GROWTH				
• Low Growth	55	110	50.0	100.0
• High Growth	55		50.0	
SUB				
• Have Subsidiaries	58	110	52.7	100.0
• Haven't Subsidiaries	52		47.3	
NOB				
• Have Branches	43	110	39.1	100.0
• Haven't Branches	67		60.9	
AUD				
• BIG4 Firms	37	110	33.6	100.0
• Others	73		66.4	

From Table (5-2), we found that the classification of studied firms into two types, namely, manufacturing and services firms revealed that (55.5%) of firms were manufacturing whilst the rest (44.5%) were services firms. Out of the total firms, we also found that (52.7%) of firms have subsidiaries and (39.1%) have branches. In addition to that analysis showed (66.4%) of the sample, the auditing was performed by small auditing firms while the others by the big 4 firms. Furthermore, by using the median (0.9928 JD) as a cutoff point that previously used by Griffin, (2010) to classify firms into low and high growth firms, the analysis revealed that half (50%) of firms in our sample were high growth and the another half were low growth firms.

5.3 Multiple Regression Analysis

The multiple regression was run and the multivariate analysis was conducted in this study to provide a further evidence on whether audit fees vary in relation to the agency costs that can arise in companies with FCF.

One of the important assumptions for using the multiple regression analysis is to make sure that all continuous variables are normally distributed, because any deviation from normality will lead to non-normality problem. Therefore, testing for the normality assumption was performed, we found

that all of the variables were normally distributed except corporate size and the audit fees variables. However, in order to meet the Kolmogorov-Smirnov test for normality those non-normally distributed variables were transformed. The transformation method that suggested by statisticians and adopted here is the log transformation of the non-normally distributed variables which used the log function for the variable's values that were greater than zero. Thus, the log transformation employed in this study for the total assets which represent the size and audit fees variables.

Another problem arises in conducting multiple regression analysis is the multicollinearity between independent variables that happen when two or more variables in a multiple regression model are highly correlated which makes it difficult to determine the individual contribution of each variable to predict the dependent variable. One mechanism that used in this study to detect the multicollinearity between the independent variable is variance inflation factors (*VIF*), which are calculated by $(1-R^2)^{-1}$, where R^2 is obtained by regressing each independent variable on all other independent variables. Hence, a $VIF > 10$ constitutes a potentially harmful degree of multicollinearity. This implies that R^2 is greater than 90% (Kennedy, 1985).

Table (5-3)
Coefficients[a]
Collinearity Analysis of Regression Model(1)

Model	Collinearity Statistics	
	Tolerance	VIF
FCF	.472	2.119
SIZE (Log)	.534	1.872
INDUSTRY	.904	1.106
DA	.609	1.643
DIVIDEND	.894	1.119
QUICK	.780	1.282
ROI	.640	1.561
SUB	.842	1.187
NOB	.880	1.136
AUD	.792	1.263

a. Dependent Variable: Log of Audit Fees

Table (5-3) presents the VIF value for all independent variables in this study. As seen from the tabulated data, there was no multicollinearity problem between the independent variables in this study because the VIF values for all independent variables were less than 10.

The following model is used to test H1:

$$LAF_{ti} = \beta_0 + \beta_1 * SIZE_{it} + \beta_2 * DA_{it} + \beta_3 * DIVIDEND_{it} + \beta_4 * QUICK_{it} + \beta_5 * ROI_{it} + \beta_6 * INDUSTRY_{it} + \beta_7 * SUB_{it} + \beta_8 * NOB_{it} + \beta_9 * FCF_{it} + \beta_{10} * AUD_{it} + e \quad \textbf{(1)}$$

Regression model number (1) tests for the existence of a significant positive relationship between FCF and audit fees, and then, tests for significant relationship between audit fees and other control variables

which are: the corporate size (SIZE), total debt to asset ratio (DA), dividends yields (DIVIDEND), quick ratio (QUICK), return on investment (ROI), the type of sector (INDUSTRY), the corporate subsidiaries (SUB), the corporate branches (NOB), and the type of auditing firm whether the firm is audited by BIG4 firm or not (AUD).

In this study, the multiple regression models were fitted to include all independent variables simultaneously using "enter" method on SPSS. In this method all the variables are entered into the model simultaneously to examine whether there is a significant relationship between the dependent variable which is audit fees and the FCF which is used as independent variable adjusting. Statistically, the null hypothesis ($\beta_i = 0$) is indicated by whether the coefficients' significance cannot be rejected at a critical 5% significance level.

Table (5-4) summarizes the results of the multivariate analysis for the regression (1).

Table 5-4
Summary of the Results of the Regression Model (1)

(a) *Model* 1

R	.741[a]	
R^2	.549	
R^2 Adjusted	.504	
Std. Error of Estimate	.22560	
F	12.069	Sig. F = .0000

Coefficients[a] for Variables in the Equation

Variable	β	BETA	T-Value	Sig. Level (P Value)
FCF	-.212	*-.051*	-.521	.604
SIZE (log)	.309	.592	6.417	.000
DA	-.049	-.033	-.382	.703
DIVIDEND	-.043	-.109	-1.529	.129
QUICK	.005	.033	.428	.670
ROI	-.017	-.013	-.152	.880
INDUSTRY	-.009	-.013	-.188	.851
SUB	.077	.120	1.634	.105
NOB	0.000	.000	.007	.995
AUD	.152	.225	2.966	.004
(Constant)	1.699		5.004	.000

a. Dependent Variable: Log of Audit Fees

As noted from the table (5-4), the model is highly significant which equal (F=12.069, p = 0.0000) in which the F statistic used to indicate the significance of the model and the adjusted R square equal to 0.504, in which the R square is used to provides a measure of how well dependent variable is replicated by the model, as the proportion of total variation in the dependent variable explained by the model, which means that 50.4% from total variability in audit fees is explained by independent variable which is FCF and other variables in the model.

After adjustment for other control variables the multivariate linear regression analysis showed that only the corporate size (SIZE) and the type of auditing firm (AUD) had a significant positive relationship with audit fees ($t = 6.417$, $p = 0.000$ and $t = 2.966$, $p = 0.004$, respectively). However, other control variables that included in the model had no significant relationship with the audit fees as our interested outcome. Based on these findings, our results: (i) accept the null hypothesis number (1) of no significant relationship between FCF and audit fees; (ii) there is no significant relationship between audit fees and other control variables which are as following: the total debt to asset ratio (DA), dividends yields (DIVIDEND), quick ratio (QUICK), return on investment (ROI), the type of sector (INDUSTRY), the corporate subsidiaries (SUB), and the corporate branches(NOB). While (iii) there is a significant positive relationship between audit fees and both of the corporate size (SIZE) and the type of auditing firm (AUD).

The following model is used to test H2:

$$LAF_{ti} = \beta_0 + \beta_1 * SIZE_{it} + \beta_2 * DA_{it} + \beta_3 * DIVIDEND_{it} + \beta_4 * QUICK_{it} + \beta_5 * ROI_{it} + \beta_6 * INDUSTRY_{it} + \beta_7 * SUB_{it} + \beta_8 * NOB_{it} + \beta_9 * FCF_{it} + \beta_{10} * AUD_{it} + \beta_{11} * GROWTH_{it} + e \quad \textbf{(2)}$$

Table (5-5) summarizes the results of the multivariate analysis for the multiple regression number (2) by adding the dummy variable which is the growth level (GROWTH) to the model to examine the impact of low growth on the FCF and audit fees relationship in the first run for the regression, and to examine the impact of high growth on the FCF and audit fees relationship in a second run for the regression. The median growth of (0.9928 JD) was used by Griffin (2010) to classify firms in to low and high growth firms, the analysis revealed that half (50%) of the firms in our sample were high growth and the other half were low growth firms.

Table 5-5
Summary of the Results of the First Run for Regression Model (2)

(a) *Model* 2 (*first run*)

R	.829[a]	
R^2	.687	
R^2 Adjusted	.616	
Std. Error of Estimate	.19765	
F Statistic	9.671	Sig. F = .0000

Coefficients[a,b] for the Variables in the Equation

Variable	β	BETA	T-Value	Sig. Level (P value)
FCF	.416	.104	.800	.428
SIZE (Log)	.367	.611	4.949	.000
DA	.093	.060	.518	.607
DIVIDEND	-.103	-.133	-1.278	.208
QUICK	.013	.064	.596	.554
ROI	-.421	-.142	-1.219	.229
INDUSTRY	-.039	-.062	-.705	.484
SUB	.080	.127	1.316	.195
NOB	-.021	-.031	-.300	.765
AUD	.212	.277	2.668	.011
(Constant)	1.264		2.315	.025

a. Growth Level = Low Growth
b. Dependent Variable: Log of Audit Fees

As seen from Table (5-5), the first run for the model is highly significant (*F* = 9.671, p = 0.0000) with an adjusted R^2 equal to 0.616, which means that 61.6% of the variation in audit fees can be explained by the independent variables included in the model.

The multivariate linear regression analysis showed that the corporate size and the type of auditing firm had a significant positive relationship with audit fees (t = 4.949, p = 0.000 and t = 2.668, p = 0.011, respectively). However, other independent variables had no significant relationship with the audit fees at a low level of growth as our interested outcome. Therefore, there is no significant relationship between FCF and audit fees for the group of firms that was classified as a low level of growth.

Table (5-6) provides summary results of the second run of the regression model number 2.

Table 5-6
Summary of the Results of the Second Run for Regression Model (2)

(a) *Model* 2 (*second run*)

R	.723[a]	
R^2	.523	
R^2 Adjusted	.414	
Std. Error of Estimate	.24771	
F Statistic	4.818	Sig. F = .0000

Coefficients[a,b] for the Variables in the Equation

Variable	β	BETA	T-Value	Sig. Level (P value)
FCF	-1.076	-.251	-1.475	.147
SIZE (Log)	.310	.658	4.180	.000
DA	-.183	-.129	-.941	.352
DIVIDEND	-.183	-.067	-.592	.557
QUICK	-.005	-.039	-.311	.757
ROI	.100	.102	.697	.490
INDUSTRY	.043	.066	.570	.572
SUB	.095	.147	1.269	.211
NOB	.035	.054	.496	.622
AUD	.109	.170	1.394	.170
(Constant)	1.676		3.275	.002

a. Growth Level = High Growth
b. Dependent Variable: Log of Audit Fees

As seen from Table (5-6), the model is highly significant (*F* = 4.818, p = 0.0000) where the adjusted R^2 was 0.414, which means that 41.4% of the variation in audit fees can be explained by the FCF and other independent variables in the model.

The multivariate linear regression analysis showed that only the firm size had a significant positive relationship with audit fees (t =4.180, p = 0.000). However, other independent variables that included the FCF had no

significant relationship with the audit fees at high level of growth as our interested outcome. Thus, our results concluded to that there was no significant relationship between FCF and audit fees at high level of growth. Thus, we reject the hypothesis number (2) because the audit fees for high growth firms are higher than for low growth firms for firms with any level of FCF at insignificant level of 5%.

Briefly, to avoid the probability of firm's growth level as a confounder in the relationship between audit fees and FCF, the multivariate linear regression models were fitted for high growth and low growth firms separately. Nevertheless, the results showed that there was no significant relationship between audit fees and FCF in both high (t= -1.475, p= 0.147) and low growth firms (t = 0.800, p= 0.428).

In summary, the results rejected the hypotheses numbers (1 and 2) and accepted the null hypotheses numbers (1 and 2) in which null hypotheses number (1) showed that there was no significant relationship between FCF and audit fees. And the results rejected the hypothesis number (2) too which states that the audit fees for high growth firms are higher than for low growth firms with any level of FCF because there were no significant relationship between audit fees and FCF in both high and low growth firms at significance level of 5%. Moreover, our results accept the null

hypothesis of there is no significant relationship between audit fees and other control variables which are as following: the total debt to asset ratio (DA), dividends yields (DIVIDEND), quick ratio (QUICK), return on investment (ROI), the type of sector (INDUSTRY), the corporate subsidiaries (SUB), and the corporate branches (NOB). While there is a significant positive relationship between audit fees and both of the corporate size (SIZE) and the type of auditing firm (AUD).

Chapter Six
Results, Conclusions and Recommendations

6.1 Introduction

This chapter summarizes the important results and conclusions in this study in order to offer suitable recommendations based on the results.

6.2 Summary of Results and Conclusions

This study aims at investigating the effect of agency costs of FCF on audit fees, in addition to examine the impact of growth level on the FCF and audit fees association for a sample of 110 firms listed in ASE from the manufacturing and services sectors whose annual financial statements were available for the year 2011. The multivariate linear regression analysis was conducted to found the potential predictors that were associated with the dependent variable to reach for the following results:

1. There is no impact of the FCF on the audit fees in which the FCF used as proxy of agency costs because there is no significant relationship between audit fees and FCF, thus, the FCF variable can't be used to explain the variation on audit fees.

2. There is significant positive relationship between audit fees and both of the corporate size and the type of auditing firm.

3. There is no significant relationship between audit fees and the following variables: the total debt to asset ratio, dividends yields, quick ratio, return on investment, the type of sector, the corporate subsidiaries, and the corporate branches.

4. There is no effect for the growth level on the audit fees and FCF relationship because there is no significant relationship between audit fees and FCF for both high and low a growth firm.

The previous results are consistent with Ferguson and Taylor (2007) study which conducted in Australia and found that there was no evidence of a positive association between FCF and audit fees. While the following studies that conducted by Mosavi *et al* (2012) in Iran, Wang and Yang (2011) in USA, Griffin *et al* (2010) in USA, Nikkinen and Sahlstrom (2004) in Denmark, Hong Kong, Malaysia, Singapore, South Africa, Sweden, and the UK, and finally Gul and Tsui (1998) in Hong Kong have found that there was a significant positive association between audit fees and agency costs of FCF. Furthermore, the role of growth opportunity to explain the relationship between audit fees and FCF in which firms with high FCF and low growth opportunities is associated with higher audit fees than firms with low FCF and low growth opportunities.

6.3 Recommendations for Further Research

Since this study investigated the impact of agency costs of FCF on audit fees in Jordan, it could be noted that most of the studies that tested the relationship between audit fees and agency cost of FCF have been conducted in the developed countries. However, hitherto, to the best of the researchers' knowledge this is the first study of it is kind to be conducted in developing countries like Jordan. So, the current study pave the way for future researches in Jordan that can take in its consideration more variables, issues, and period of time that might not covered in this study.

In addition to that, I recommend the further researches to addressed new issues like; the non-audit fees and agency costs relationship in addition to the audit fees and corporate governance relationship.

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أتعاب التدقيق وتكاليف الوكالة: دراسة ميدانية على الشركات المدرجة في بورصة عمان

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الملخص

تهدف هذه الدراسة إلى البحث في تأثير تكاليف الوكالة الناتجة من الفائض في التدفقات النقدية على أتعاب التدقيق, وكما تفحص هذه الدراسة تأثير مستوى فرص نمو وتطور الشركة على هذه العلاقة أيضا. لتحقيق هذه الأهداف فقد تم جمع البيانات من القوائم المالية لشركات العينة والتي تتكون من الشركات الصناعية والشركات الخدمية المدرجة في بورصة عمان في الأردن لعام 2011. وقد تم تحليل هذه البيانات بواسطة استخدام نموذج الإنحدار المتعدد. أظهرت النتائج عدم وجود علاقة ذات دلالة إحصائية بين أتعاب التدقيق وتكاليف الوكالة الناتجة من الفائض في التدفقات النقدية، وكما بينت النتائج بوجود علاقة ايجابية ذات دلالة إحصائية بين أتعاب التدقيق من جهة وكلا حجم الشركة المدقق لها ونوع شركة التدقيق من جهة أخرى، بالإضافة لعدم وجود علاقة ذات دلالة إحصائية بين أتعاب التدقيق والمتغيرات التالية: الدين والأرباح الموزعة والسيولة السريعة والعائد على الإستثمار ونوع القطاع و عدد الشركات التابعة وعدد الفروع لشركة التدقيق . وأخيرا أظهرت النتائج عدم وجود تأثير لكلا فرص النمو المرتفع والمنخفض على العلاقة بين أتعاب التدقيق وتكاليف الوكالة الناتجة من الفائض في التدفقات النقدية وذلك بسبب عدم وجود علاقة ذات دلالة إحصائية بين أتعاب التدقيق وتكاليف الوكالة الناتجة من الفائض في التدفقات النقدية لكلا الشركات ذات مستوى فرص النمو المرتفع والمنخفض.

الكلمات المفتاحية: أتعاب التدقيق، الفائض في التدفقات النقدية، تكاليف الوكالة، مستوى فرص النمو، بورصة عمان.